DP Barcode: Dxxxxxx 2/17/1999 MRID No.: 443206-27

DATA EVALUATION RECORD
§ 71-2(B) -- WATERFOWL DIETARY LC_{50} TEST

1. **CHEMICAL:** Glyphosate PC Code No.: 417300

2. **TEST MATERIAL:** Glyphosate Purity: 95.6%

3. **CITATION**

Authors: Johnson, Alison and Dawe, I. Suzanna
Title: Dietary LC50 To The Mallard Duck
Study Completion Date: June 16, 1998
Laboratory: Huntingdon Life Science Ltd.
Sponsor: Zeneca Ag Products
Laboratory Report ID: ZCA 23
MRID No.: 443206-27

4. **REVIEWED BY:** Curtis E. Laird, Fishery Biologist, EHB, EFED

Signature: Curtis E. Laird **Date:** 2-15-99

5. **APPROVED BY:** Tom A. Bailey, Chief, EHB, EFED

Signature: Tom A. Bailey **Date:** 2-17-99

6. **STUDY PARAMETERS**

Scientific Name of Test Organism: *Anas platyrhynchos*
Age of Test Organisms at Test Initiation: 10 days
Definitive Study Duration: Eight days

7. **CONCLUSIONS:** This study indicates glyphosate is practically nontoxic mallard duck with an LC50 greater than 5,200 ppm. This study does fulfill the guideline requirements in support of registration for an avian dietary study.

Results Synopsis
LC_{50}: >5,200 ppm ai 95% C.I.: N/A ppm ai
NOEL: 5,200 ppm ai Probit Slope: N/A

8. **ADEQUACY OF THE STUDY**

A. Classification: Core

B. Rationale: N/A

C. Repairability: N/A

9. **GUIDELINE DEVIATIONS**

1. None

10. **SUBMISSION PURPOSE:** This study is submitted in support of registration.

11. **MATERIALS AND METHODS**

A. Test Organisms

Guideline Criteria	Reported Information
Species: A wild waterfowl species, preferably the mallard (*Anas platyrhynchos*).	Yes
Age at beginning of test: 5-10 days old (preferably 5).	10 days
Supplier	County Game Farm, Hothford, Kent, England
Chicks appeared healthy and did not have excessive mortality before the test?	Yes
Acclimation period: As long as possible.	3 days

B. Test System

Guideline Criteria	Reported Information
Pen size: about 70 x 100 x 24 cm	1.5 M
Brooder temperature: about 35°C (95°F)	not mentioned
Room temperature: 22-27°C (71-81°F)	26 to 29 degree C
Relative humidity: 30-80%	72%
Adequate ventilation?	Yes
Photoperiod Minimum of 14 h of light.	

Guideline Criteria	Reported Information
Diet: A commercial waterfowl feed.	Standard HRC chick diet

C. **Test Design**

Guideline Criteria	Reported Information
Range finding test?	Not Reported
Definitive Test **Nominal concentrations:** Four minimum, 5 or 6 strongly recommended, in a geometric scale, unless LC_{50} > 5000 ppm.	5 levels
Controls: Control group tested with diet containing the maximum amount of vehicle used in treated diets?	Yes
Number of birds per group: 10 (strongly recommended)	10
Vehicle: Distilled water, corn oil, propylene glycol, 1% carboxymethylcellulose, or gum arabic.	None
Vehicle amount (% of diet by weight): Not more than 2%.	0%
Test durations: 5 days with treated feed and at least 3 days observation with "clean" feed.	Yes
No mortality during last 72 hr of observations?	No

12. **REPORTED RESULTS**

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements were included in the report?	Yes
Body weights measured at beginning and end?	Yes
Estimated consumption per pen reported for pretreatment, treatment, and observation periods?	Yes
Control Mortality: Not more than 10%	0%
Raw data included?	Yes
Signs of toxicity (if any) were described?	No

Mortality

Conc. (ppm)		No. of Birds	Cumulative Number of Dead							
			Day of Study							
Nominal	Mean Measured		1	2	3	4	5	6	7	8
Control	ND	10	0	0	0	0	0	0	0	0
325	309	10	0	0	0	0	0	0	0	0
650	631	10	0	0	0	0	0	0	0	0
1300	1320	10	0	0	0	0	0	0	0	0
2600	2520	10	0	0	0	0	0	0	0	0
5200	5160	10	0	0	0	0	0	0	0	0

Other Significant Results: N/A

Statistical Results: No statistics were performed due to lack of mortality.

Statistical Method: Visual

LC_{50}: >5,200 ppm 95% C.I.: N/A ppm

NOEL: 5,200 ppm Probit Slope: N/A

13. **Verification of Statistical Results**

Statistical Method: None

LC_{50}: 5,200 ppm 95% C.I.: N/A ppm

NOEL: 5.200 ppm Probit Slope: N/A

Adjusted for active ingredient:

LC_{50}: No ppm ai 95% C.I.: No ppm ai

NOEL: No ppm ai

14. **REVIEWER'S COMMENTS**: This study indicates glyphosate is practically nontoxic to mallard duck with an LC50 greater than 5,200 ppm. This study does fulfill the guideline requirements in support of registration for a waterfowl species.